

REMARKS

The Claims Are Patentable Over the Prior Art

The Examiner has maintained the rejection under 35 USC 102 based on Yamamoto and a newly cited reference, Matsumoto.

Patentable distinction 1: the relatively higher degree of adhesion

The Applicant reiterates that nothing in the prior art teaches the use of an anchoring adhesive “having a relatively higher degree of adhesion to the first material or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both” (claim 1) or “having a relatively higher degree of adhesion to the material than the degree of adhesion of the casting adhesive to the material” (claim 11).

The applicant has now added the limitation “after curing,” which the Examiner had indicated was not in the claims, and submits that the claims so amended patentably distinguish over the prior art.

With respect, the Examiner is not considering the purpose and functioning of the present invention and has cited art which superficially resembles the invention, but does not have all the claimed properties. The invention allows an adhesive that may be desirable, for example because of its flexibility, to be adhered to a material to which it has poor adhesion.

That is a primary purpose of the present invention. The invention accomplishes this by providing a series of adhesive anchors – formed and cured on the material out of an adhesive that has **better** adhesion to that particular material – to which the desirable adhesive can then bond because the adhesive anchors form “a plurality of physical and chemical bonding sites. That is the function of the present invention.

Neither Yamamoto nor Matsumoto teach this. The Examiner infers that Yamamoto’s conductive bumps 34 have adhesive properties, but they do not. They are “made from a material having such hardness that permits penetration of the bumps through the synthetic resin sheet in a first pressing stage...and permits plastic deformation in a secondary pressing stage.” They are described as composed of a conductive composition with a binder component – there is nothing

in Yamamoto that teaches or suggests that these conductive bumps 34 have any adhesive (chemical bonding) properties when used in his circuit board. They serve to puncture the resin sheet, and thereafter to conduct electricity, and that is all. The functional, structural and physical properties of the conductive bumps 34 preclude them from serving as the claimed plurality of physical and chemical bonding sites.

There is certainly nothing in Yamamoto which teaches that the conductive bumps 34 after curing have a relatively higher degree of adhesion to the first material or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both.

Likewise, the applicant respectfully submits that the Examiner has no support for the assertion that Matsumoto's convex adhesive members 6 "have a relatively higher degree of adhesion to the first material or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both." The Examiner cites col. 3, line 26 to col. 4, line 25; but the most that this passage states in this regard is that the convex adhesive members 6 are buried in the adhesive layer 3 and the adhesive layer 3 is uniform.

The "convex adhesive members 6" only have to adhere to the surface of the solar cell body 1 sufficiently to stay in place until the adhesive layer 3 is applied. They serve no other purpose, and there is certainly no teaching or suggestion (nor any requirement for Matsumoto's purposes) that the convex support members 6 have a relatively higher degree of adhesion to the first or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both.

Matsumoto actually teaches that the convex adhesive members 6 and adhesive layer 3 may be different adhesives (col. 4, lines 13 to 16); by implication **they may be the same adhesive**. This completely negates the Examiner's assertion that the convex support members 6 (which as noted above are used solely to space the glass cover 2 from the solar cell body 1 before the adhesive layer 3 is applied and serve no purpose after the adhesive layer 3 is applied) have a relatively higher degree of adhesion to the first or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both. How could this possibly be if they can be formed from the same adhesive?

With respect, the Examiner has inferred from both Yamamoto and Matsumoto features that do not exist in their inventions and are not taught or suggested by those patents.

The Examiner has construed the binder in Yamamoto used to form the conductive bumps 34 as have a relatively higher degree of adhesion to the first or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both, which they do not have from Yamamoto's description; similarly, the Examiner has construed the convex adhesive members 6 in Matsumoto as having a relatively higher degree of adhesion to the first or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both, which they do not have from Matsumoto's description.

Claims 1 and 11 respectively recite "the anchoring adhesive after curing having a relatively higher degree of adhesion to the first material or to the second material or to both than the degree of adhesion of the bonding adhesive to the first material or to the second material or to both" (claim 1) and "the anchoring adhesive after curing having a relatively higher degree of adhesion to the material than the degree of adhesion of the casting adhesive to the material" (claim 11). The applicant submits that this feature patentably distinguishes the invention from the prior art.

However, the applicant has gone further and recited that the bonded product is removed from the work surface as the last step of the method.

Patentable distinction 2: the work surface does not form part of the bonded structure

The applicant further submits that neither of these references teaches a "work surface" serving solely to support the material while adhesive is applied, as claimed. The applicant has previously submitted that Yamamoto's caul 39 is not strong enough to support any materials, and cannot serve as a "work surface" to support a material while adhesive is applied as claimed. The applicant asserts this of the semi-conductor layer 1a in Matsumoto's solar cell 1 as well, which the Examiner has also characterized as a "work surface."

However, in both cases the component characterized by the Examiner as a "work surface" *forms part of the finished product*. In the present invention it does not.

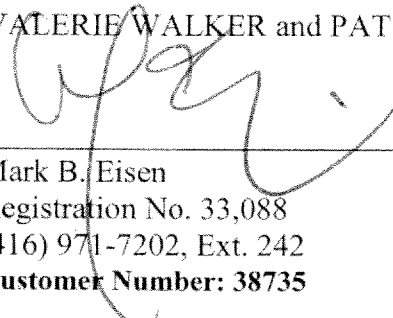
Although the applicant submits that stating the relative degree of adhesion provides a patentable distinction over the prior art, claims 1 and 11 have also been amended to recite the step "removing the bonded first and second materials from the work surface" which neither Yamamoto nor Matsumoto do. Yamamoto's caul 39 remains part of the bonded circuit board after adhesive is applied, and Matsumoto's semiconductor layer 1a remains part of the bonded solar cell after adhesive is applied. This provides yet another patentable distinction over the cited prior art. Nothing in Yamamoto or Matsumoto teaches a work surface that is used solely during the bonding process and does not form part of the finished product, as presently claimed.

Favourable reconsideration and allowance of this application are therefore requested.

This response is accompanied by a Petition for a one month extension of time. The Commissioner is authorized to charge any required fees to our Deposit Account No. 500663.

Executed at Toronto, Ontario, Canada, on October 14, 2009.

VALERIE WALKER and PAT CAIN



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Att. Petition for Extension of Time